

WE CLAIM:

1. A nonwoven fabric comprising a support web and a fibrous barrier web, having a hydrohead of at least about 145 cm and a Frazier permeability of at least about 0.3 m³/m²-min.
- 5 2. A nonwoven fabric comprising at least one support web and a hydrophobic barrier web with fibers having diameters of less than 2.0 micrometers, a hydrohead of at least about 145 cm and a Frazier permeability of at least about 0.3 m³/m²-min.
- 10 3. The nonwoven fabric of claims 1 or 2, wherein said barrier web fibers have diameters of less than 1.0 micrometer.
4. The nonwoven fabric of claims 1 or 2, wherein said barrier web fibers have diameters of less than 0.5 micrometer.
- 15 5. The nonwoven fabric of claim 3, wherein the barrier layer basis weight is no more than 15 g/m².
6. The nonwoven fabric of claim 4, wherein the barrier layer has a basis weight of no more than 3 g/m².
- 20 7. The nonwoven fabric of claims 1 or 2, wherein said barrier web comprises nanofibers of hydrophobic polymer or copolymer.
8. The nonwoven fabric of claim 7, wherein said hydrophobic polymer or copolymer is a polyolefin, a partially fluorinated polymer or a perfluorinated polymer.
- 25 9. The nonwoven fabric of claim 8, wherein said hydrophobic polymer or copolymer has repeating units derived from ethylene, propylene, butenes, hexenes, octenes, styrenes, 4-methylpentene-1 and combinations thereof.
10. The nonwoven fabric of claims 1 or 2, wherein said barrier web is rendered hydrophobic by coating with a hydrophobic coating.
- 30 11. The nonwoven fabric of claim 10, wherein said hydrophobic coating is a fluorocarbon coating material.

12. The nonwoven fabric of claims 1 or 2, wherein the barrier web has a maximum pore size between fibers of no more than about 23 micrometers.
13. The nonwoven fabric of claims 1 or 2, wherein the barrier web has a solids fraction of no less than about 0.03.
- 5 14. A nonwoven barrier fabric comprising a fibrous barrier web, said fabric having a hydrohead of at least about 145 cm and a Frazier permeability of at least about 0.3 m³/m²-min and having a relationship between barrier web basis weight, and fabric hydrohead and Frazier permeability described by the formula:
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$$B_{wt}(g / m^2) \leq \frac{4000 \cdot c \cdot (1 - 2.3 \cdot c) \cdot \rho_f}{Frazier \cdot Hydrohead^{k(c)}}, \quad \text{wherein}$$

ρ_f is the density of the barrier fibers, kg/m³ c is the solids volume fraction of the barrier web,

$k(c) = 3.58 \cdot c^2 - 1.32 \cdot c + 1.77$,

 - 15 Frazier is in units of m³/m²-min, and
Hydrohead is in units of centimeters of water column.
 - 16. A nonwoven fabric according to one of claims 1, 2 or 14, comprising a structure of FF/mSB, wherein FF is a barrier web.
 - 20 17. A nonwoven fabric according to one of claims 1, 2 or 14, comprising a structure of FF/SB, wherein FF is a barrier web.
 - 18. A nonwoven fabric according to one of claims 1, 2 or 14, comprising a structure of mSB/FF/mSB, wherein FF is a barrier web.
 - 25 19. A nonwoven fabric according to one of claims 1, 2 or 14, comprising a structure of SB/MB/FF/MB/SB, wherein FF is a barrier web.
 - 20. A nonwoven fabric according to one of claims 1, 2 or 14, comprising a structure of FF/MB/mSB, wherein FF is a barrier web.
 - 21. A nonwoven fabric according to one of claims 1, 2 or 14, comprising a structure of mSB/MB/FF/MB/mSB, wherein FF is a barrier web.
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22. A nonwoven fabric according to one of claims 1, 2 or 14, comprising a structure of SB/MB/FF/SB, wherein FF is a barrier web.
23. A nonwoven fabric of claims 1 or 2, wherein said support web comprises fibers having diameters less than about 20 times the
5 barrier web fiber diameters.
24. The nonwoven fabric of claim 23, wherein said support web fibers have diameters less than about 13 micrometers.